Complete Summary

GUIDELINE TITLE

Diagnoses and treatment of work-related carpal tunnel syndrome (OCTS).

BIBLIOGRAPHIC SOURCE(S)

Washington State Department of Labor and Industries. Diagnoses and treatment of work-related carpal tunnel syndrome (OCTS). Olympia (WA): Washington State Department of Labor and Industries; 2002 Aug. 10 p.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Work-related carpal tunnel syndrome (OCTS)

GUIDELINE CATEGORY

Diagnosis
Evaluation
Treatment

CLINICAL SPECIALTY

Neurological Surgery
Neurology
Orthopedic Surgery
Physical Medicine and Rehabilitation

INTENDED USERS

Health Care Providers
Health Plans
Physicians
Utilization Management

GUIDELINE OBJECTIVE(S)

To present guidelines for the diagnosis and treatment of work-related carpal tunnel syndrome (OCTS)

TARGET POPULATION

The injured worker with carpal tunnel syndrome

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnostic Evaluation

1. Evaluation of subjective and objective clinical findings (e.g., symptoms of numbness, tingling, weakness, and decreased sensation to pin in palm and first 3 digits)
2. Work-relatedness assessment
3. Electrodiagnostic studies, including nerve conduction testing (NCVs), electromyogram (EMG), or needle examination

Treatment

1. Conservative care
    - Splinting of the wrist
    - Anti-inflammatory medication including non-steroidal
    - Steroid injections
2. Conservative care and job modification
3. Surgery
    - Decompression of the transverse carpal ligament
    - Internal neurolysis

MAJOR OUTCOMES CONSIDERED

- Sensitivity and specificity of diagnostic assessments for carpal tunnel syndrome
- Response to surgical decompression of the median nerve

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches of the U.S. National Library of Medicine's Medline database to identify data related to the injured worker population.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Consensus development has generally taken place between the permanent members of the subcommittee (orthopedic surgeon, physiatrist, occupational medicine physician, neurologist, neurosurgeon) and ad hoc invited physicians who are clinical experts in the topic to be addressed. One hallmark of this discussion is that, since few of the guidelines being discussed have a scientific basis, disagreement on specific points is common. Following the initial meeting on each guideline, subsequent meetings are only attended by permanent members unless information gathering from invited physicians is not complete.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Following input from community-based practicing physicians, the guideline was further refined.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Criteria for the Diagnosis and Treatment of Work-Related Carpal Tunnel Syndrome (OCTS)

PROCEDURE	CONSERVATIVE CARE	Clinical Findings				
			SUBJECTIVE		OBJECTIVE	
DECOMPRESSION OF THE MEDIAN NERVE	• Splinting • Anti-inflammatory medication • Steroid injections * * No more than 2 injections in 3 months NOTE: In the absence of conservative care or with minimal conservative care, a request for surgery can still be considered pending clinical	AND	• Complaints of numbness, tingling, or "burning" pain of the hand or thumb and first 2 fingers. • Nocturnal symptoms may be prominent. NOTE: Pain may radiate to inner elbow or to the shoulder.	OR	• Decreased sensation to pin in palm and first 3 digits OR • Weakness or atrophy of the thenar eminence muscles	AND

PROCEDURE	CONSERVATIVE CARE	Clinical Findings				
			SUBJECTIVE		OBJECTIVE	
	findings.					

PROCEDURE	CONSERVATIVE CARE	Clinical Findings				
			SUBJECTIVE		OBJECTIVE	
Nerve conduction studies should be done if worker is off work for > two weeks or surgery						

Abbreviations: EMG, electromyogram; NCV, nerve conduction testing; RTW, return to work

Work-relatedness (for claim acceptance)

Any activity requiring extensive or continuous use of the hands in work may be an appropriate exposure. In general, one of the following work conditions should be occurring on a regular basis:

1. Repetitive hand use, especially for prolonged periods (e.g., keyboard users), against force (e.g., meat cutters), or with awkward hand positions (e.g., grocery checkers), with repeated wrist flexion, extension, or deviation as well as forearm rotation, or with constant firm gripping
2. The presence of regular, strong vibrations (e.g., jackhammer, chainsaw)
3. Regular or intermittent pressure on the wrist (Note: acute carpal tunnel syndrome may be associated with acute trauma [i.e., fracture, crush injury of wrist, etc.].)

   The types of jobs that are most frequently mentioned in the literature or reported in Labor and Industry's (L&I's) data include meat cutting; seafood, fruit, or meat processing or canning; carpentry; roofing; dry walling; boat building; book binding; wood products work; dental hygienist; and intensive word processing. This is not an exhaustive list. It is only meant to be a guide in consideration of work-relatedness. If the history of exposure is unclear, then speaking directly with the employer or claimant or doing a walk through to obtain more detailed information on job duties would be critical.

Special Cases

Questions may arise in several specific situations that may raise questions about the validity of the claim for OCTS or about the need for surgery.

A. Work-relatedness may not be obvious. Some work exposures do not meet the guidelines for work-relatedness. If there is a question about the job exposure and whether such exposure could cause OCTS, the claim manager should refer the case to the occupational medical consultant.
B. Surgery may be requested in those injured workers whose clinical picture and work relatedness is quite clear, but whose NCVs are normal. Most clinicians agree that a minority (<10%) of patients with clinical OCTS may have normal NCVs. Options here may be the following:
    1. Were the most sensitive and specific NCV tests done (e.g., palm-wrist median sensory latency)? If not, request that they be done.
    2. If the NCVs were done after a period of not working, previously abnormal NCVs may have returned to normal. It would be reasonable in these cases to suggest that the claimant return to work for a brief time (a few days to a week) and repeat NCVs while they are still working.
    3. If OCTS is not documented by clinical criteria and NCV testing, other clinical problems related to repetitive use (i.e., tendonitis) should be investigated and treated appropriately. It would also be important to rule out other neurologic causes of tingling in the hands. Referral to an appropriate specialist (neurologist, physiatrist) would be prudent in such cases.
C. Carpal tunnel syndrome may also be caused by anything that decreases the cross-sectional area of the carpal tunnel or adds to the volume of the carpal tunnel, resulting in increased pressure on the median nerve. This could occur by distortion of the bones or ligaments by fracture or crush injury of the forearm or hand associated with generalized or chronic swelling (edema).
D. Carpal tunnel syndrome may be associated with other chronic conditions that may cause nerve damage or predispose a nerve to injury from compression. The most common of these conditions is diabetes. The key test here is whether, in spite of the presence of such condition, the symptoms of OCTS can be documented to have begun only after beginning work at the job in question.
E. A predisposing, physiological condition is pregnancy, wherein increased plasma volume increases pressure within the carpal tunnel. In such cases, symptoms universally disappear immediately after birth. If they do not, other etiologies (e.g., work-related, diabetes) should be pursued.

Return to Work after OCTS Surgery

The vast majority of persons with work-related OCTS are expected to have dramatic relief of their symptoms after carpal tunnel decompression surgery and should return to their same job. Return to work, with or without job modification, should be tried in most people. If symptoms worsen or reappear after return to work, repeat NCVs will help to sort out if OCTS has recurred and if surgery successfully removed the pressure on the median nerve (NCVs will improve with successful surgery, although they may not return completely to normal).

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

The recommendations were developed by combining pertinent evidence from the medical literature with the opinions of clinical expert consultants and community-based practicing physicians. Because of a paucity of specific evidence related to the injured worker population, the guideline is more heavily based on expert opinion.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- The (surgical) guidelines are meant to increase the proportion of surgical requests authorized for workers who truly require surgery and to decrease the proportion of such authorizations among workers who do not fall within the guideline.
- The vast majority of persons with work-related carpal tunnel syndrome (OCTS) are expected to have dramatic relief of their symptoms after carpal tunnel decompression surgery and should return to their same job.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- The Office of the Medical Director works closely with the provider community to develop medical treatment guidelines on a wide range of topics relevant to injured workers. Guidelines cover areas such as lumbar fusion, indications for lumbar magnetic resonance imaging (MRI), and the prescribing of controlled substances. Although doctors are expected to be familiar with the guidelines and follow the recommendations, the department also understands that guidelines are not hard-and-fast rules. Good medical judgment is important in deciding how to use and interpret this information.
- The guideline is meant to be a gold standard for the majority of requests, but for the minority of workers who appear to fall outside of the guideline and whose complexity of clinical findings exceeds the specificity of the guideline, a further review by a specialty-matched physician is conducted.
- The guideline-setting process will be iterative; that is, although initial guidelines may be quite liberally constructed, subsequent tightening of the guideline would occur as other national guidelines are set, or other scientific

evidence (e.g., from outcomes research) becomes available. This iterative process stands in contrast to the method in some states of placing guidelines in regulation. Although such regulation could aid in the dissemination and quality oversight of guidelines, flexibility in creating updated guidelines might be limited.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

All of the surgical guidelines established by the Department of Labor and Industries in collaboration with the Washington State Medical Association (WSMA) have been implemented in the context of the Utilization Review (UR) program (complete details regarding the Utilization Review program can be found on the Washington State Department of Labor and Industries Web site). It has been critical in contract negotiations with UR vendors to specify that the vendor is willing to substitute WSMA-generated guidelines for less specific standards already in use by the company. The Department of Labor and Industries initiated an outpatient UR program, and this has allowed full implementation of guidelines related to outpatient procedures (e.g., carpal tunnel surgery, magnetic resonance imagings [MRIs]). The scheduled drug use guideline has been used internally, but has not been formally implemented in a UR program.

The intention of the joint the Department of Labor and Industries and WSMA Medical Guidelines Subcommittee was to develop treatment guidelines that would be implemented in a nonadversarial way. The subcommittee tried to distinguish between clear-cut indications for procedures and indications that were questionable. The expectation was that when surgery was requested for a patient with clear-cut indications, the request would be approved by nurse reviewers. However, if such clear-cut indications were not present, the request would not be automatically denied. Instead, it would be referred to a physician consultant who would review the patient's file, discuss the case with the requesting surgeon, and make recommendations to the claims manager.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Washington State Department of Labor and Industries. Diagnoses and treatment of work-related carpal tunnel syndrome (OCTS). Olympia (WA): Washington State Department of Labor and Industries; 2002 Aug. 10 p.

ADAPTATION

Not applicable: Guideline was not adapted from another source.

DATE RELEASED

1995 Nov (revised 1999 Jun; republished 2002 Aug)

GUIDELINE DEVELOPER(S)

Washington State Department of Labor and Industries - State/Local Government Agency [U.S.]

SOURCE(S) OF FUNDING

Washington State Department of Labor and Industries

GUIDELINE COMMITTEE

Washington State Department of Labor and Industries (L&I), Washington State Medical Association (WSMA) Industrial Insurance Advisory Section of the Interspecialty Council

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Medical Director, Washington State Department of Labor and Industries (L&I): Gary Franklin, MD

The individual names of the Washington State Medical Association (WSMA) Industrial Insurance Advisory Committee are not provided in the original guideline document.

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Washington State Department of Labor and Industries. Diagnosis and treatment of work-related carpal tunnel syndrome (OCTS). Olympia (WA): Washington State Department of Labor and Industries; 1999 Jun.

GUIDELINE AVAILABILITY

Electronic copies: Available from the Washington State Department of Labor and Industries Web site.

Print copies: L&I Warehouse, Department of Labor and Industries, P.O. Box 44843, Olympia, Washington 98504-4843.

AVAILABILITY OF COMPANION DOCUMENTS

This guideline is one of 16 guidelines published in the following monograph:

- Medical treatment guidelines. Olympia (WA): Washington State Department of Labor and Industries, 2002 Aug. 109 p.

Also included in this monograph:

- Grannemann TW (editor). Review, regulate, or reform? What works to control workers' compensation medical costs? In: Medical treatment guidelines. Olympia (WA): Washington State Department of Labor and Industries, 1994 (republished 2002). p. 3-19.

Electronic copies: Available from the Washington State Department of Labor and Industries Web site.

The following is also available:

- Washington State Department of Labor and Industries. Utilization Review Program. New UR Firm. (Provider Bulletin: PB 02-04). Olympia (WA): Washington State Department of Labor and Industries; 2002 Apr. 12 p.

Print copies are available from the L&I Warehouse, Department of Labor and Industries, P.O. Box 44843, Olympia, Washington 98504-4843.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on February 14, 2000. It was sent to the guideline developer for review on February 15, 2000; however, to date, no comments have been received. The guideline developer has given NGC permission to publish the NGC summary. This summary was updated by ECRI on May 27, 2004. The information was verified by the guideline developer on June 14, 2004.

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